AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph at page 15, line 6 with the following amended paragraph:

As mentioned hereinabove the stem cells according to this aspect of the present invention are exposed to a matrix metalloprotease (MMP) or an active portion thereof. A matrix metalloprotease (MMP) refers to an enzyme of the MMP family, which are typically known to degrade connective tissues and connective tissue components. MMPs are characterized by a catalytic domain of about 170 amino acids including a zinc binding motifHEXXHXXGXXH (SEQ ID NO:1) and a conserved methionine, which forms aunique"Met-turn"structure. The catalytic domain includes of a five-stranded-sheet, three oc-helices, and bridging loops. MMP-2 andMMP-9 have three repeats of fibronectin-type II domain inserted in the catalytic domain. These repeats interact with collagens and gelatins. The C-terminal hemopexin-like domain including about 210 amino acids has an ellipsoidal disk shape with a four bladed-propeller structure; each blade consists of four antiparallel-strands and ana-helix. The hemopexin domain is an absolute requirement for collagenases to cleave triple helical interstitial collagens, although the catalytic domains alone retain proteolytic activity toward other substrates. The function of the proline-rich linker peptide that connects the catalytic and the hemopexin domains is not known, although its interaction with triple helical collagen is hypothesized based on molecular modeling.MMP-23 has cysteine-rich, proline- rich, and IL-1 receptor-like regions instead of the hemopexin domain. A transmembrane domain is found in theMT-MMPs, which anchors those enzymes to the cell surface. The active portion of the MMP according to this aspect of the present invention preferably refers to the minimal MMP sequence, which is sufficient to increase the sensitivity of the stem cells of the present invention to the chemoattractant. As used herein an active portion of MPP, refers also to a mutein, fusion protein, functional derivative, fragment, circularly permuted MPP and/or salt thereof. To determine the active portion of MMP according to the invention, stem cells can be contacted with anMMP segment and response of the cells thereto can be monitored molecularly, biochemically or functionally (e. g. , motility, homing, migration assays) using methods, which are well known to those of skill in the art and further described hereinbelow. Table 2 below, lists a number of vertebrate MMPs, which can be used to increase expression of the chemmoattractant receptor according to this aspect of the present invention.